UNCLASSIFIED

Interoperability Process

and

Net-Ready Key Performance Parameter

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J6I

Agenda

- **Set Stage**
- **Today's Approach**
- **Tomorrow’s Vision**
- **How Do We Get There?**

Revised DODD 5000.1, DODI 5000.2 and DOD 5000.2R - USD-AT&L

DODD 4630.5 & DODI 4630.8 - OASD-NII

Capabilities

CJCSI 3170 (J8)

- Capability Validation Process/Procedures
- ICD, CDD, CPD Format
- NET READY KPP

CJCSI 6212 (J6)

- Interoperability and Supportability Certification and Testing
- Methodology for Net Ready KPP Development /Validation

Acquisition

Information Support Plan (OASD-NII)

Operational/Systems/Technical Architecture Infrastructure Support

Process

Testing

TEMP

Systems specs accurately reflect requirements and acquisition documents

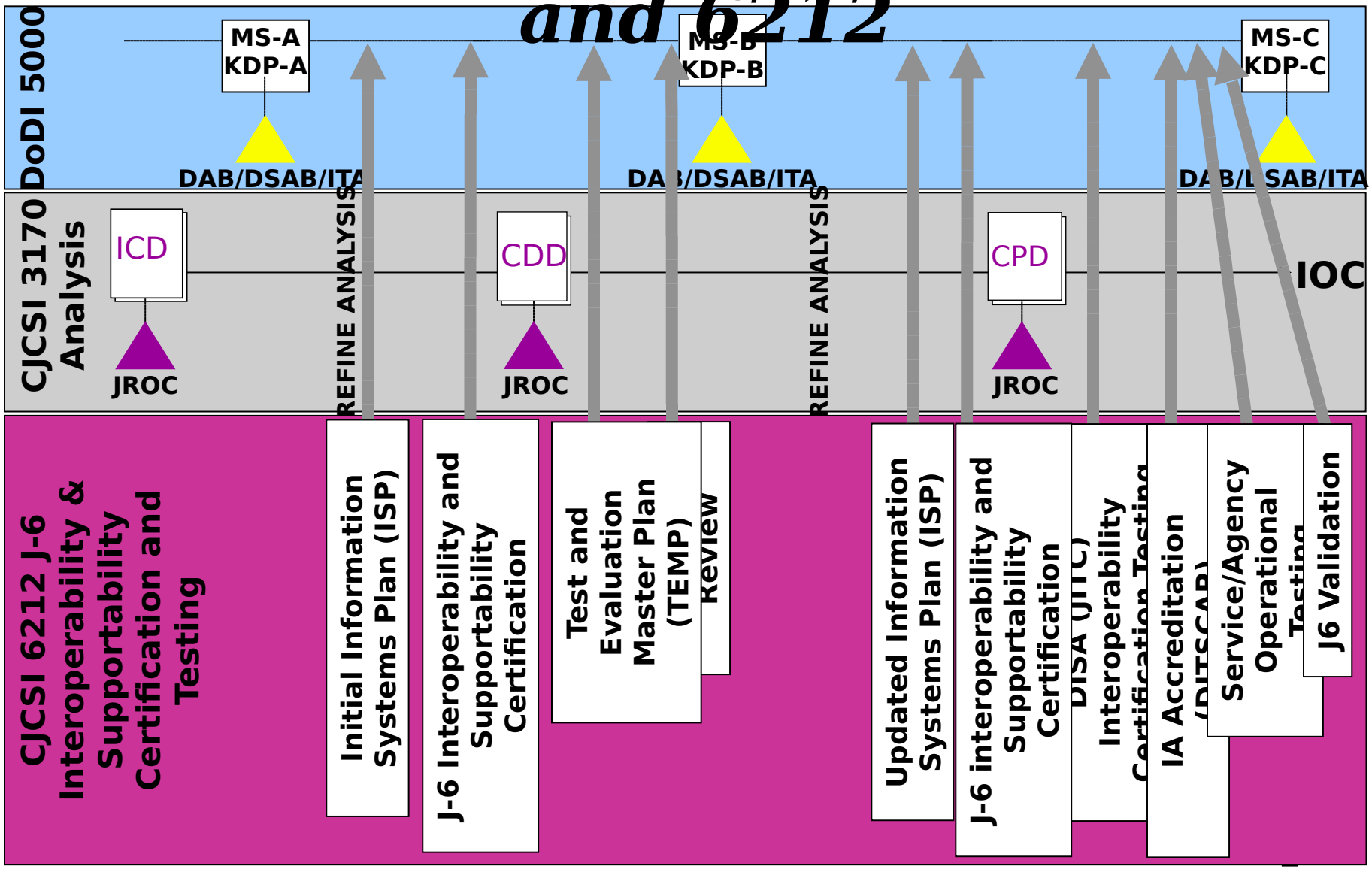
Service/Agency Testing

- DT/Standards Conformance
- OT&E
- Interoperability Testing

DISA(JITC) Interoperability Test Certification

J-6 Interoperability System Validation

Sync – DoDI 5000 &CJCSI 3170 and 6212



Interoperability KPP Today

Top-level IERs will be used as the basis to develop interoperability KPPs. The interoperability KPP definition will include that all top-level IERs will be satisfied to the standards specified in the threshold and objective values.

Typically the threshold criterion for the interoperability KPP will be 100 percent accomplishment of the critical top-level IERs, and the objective criterion for the interoperability KPP will be the accomplishment of all top-level IERs.

Interoperability KPP	Threshold (T)	Objective (O)
All top-level IERs will be satisfied to the standards specified in the Threshold (T) and Objective (O) values.	100% of top-level IERs designated critical	100% of top-level IERs

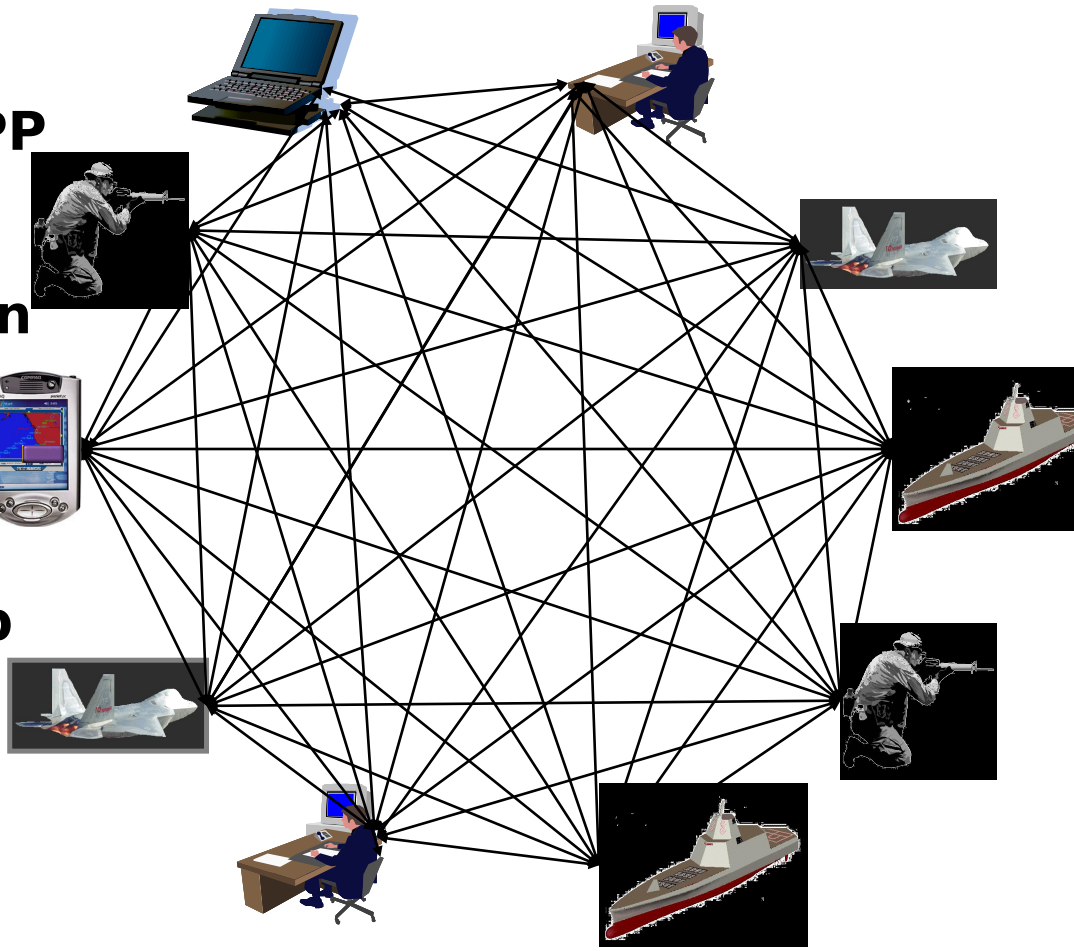
(CJCSI 6212.01B)

Problem: IER Scalability

One-to-One

Current Interoperability KPP centers around one DoD architectural view (OV-3) that contains "Information Exchange Requirements" (IERs)

- **One-to-one relationship (point-to-point)**



This example: 10 systems

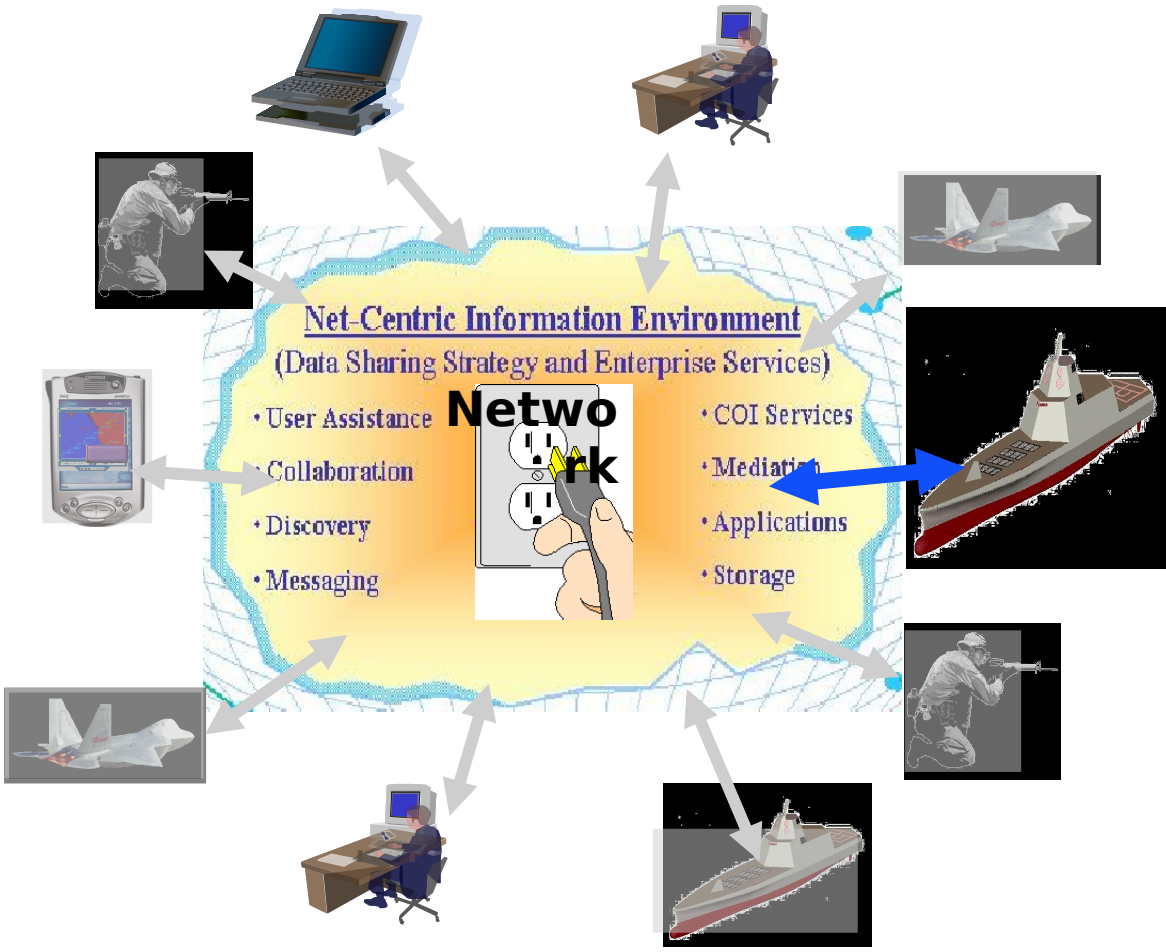
IERs 10(9-1) = 90

Solution: The Net-Ready Approach

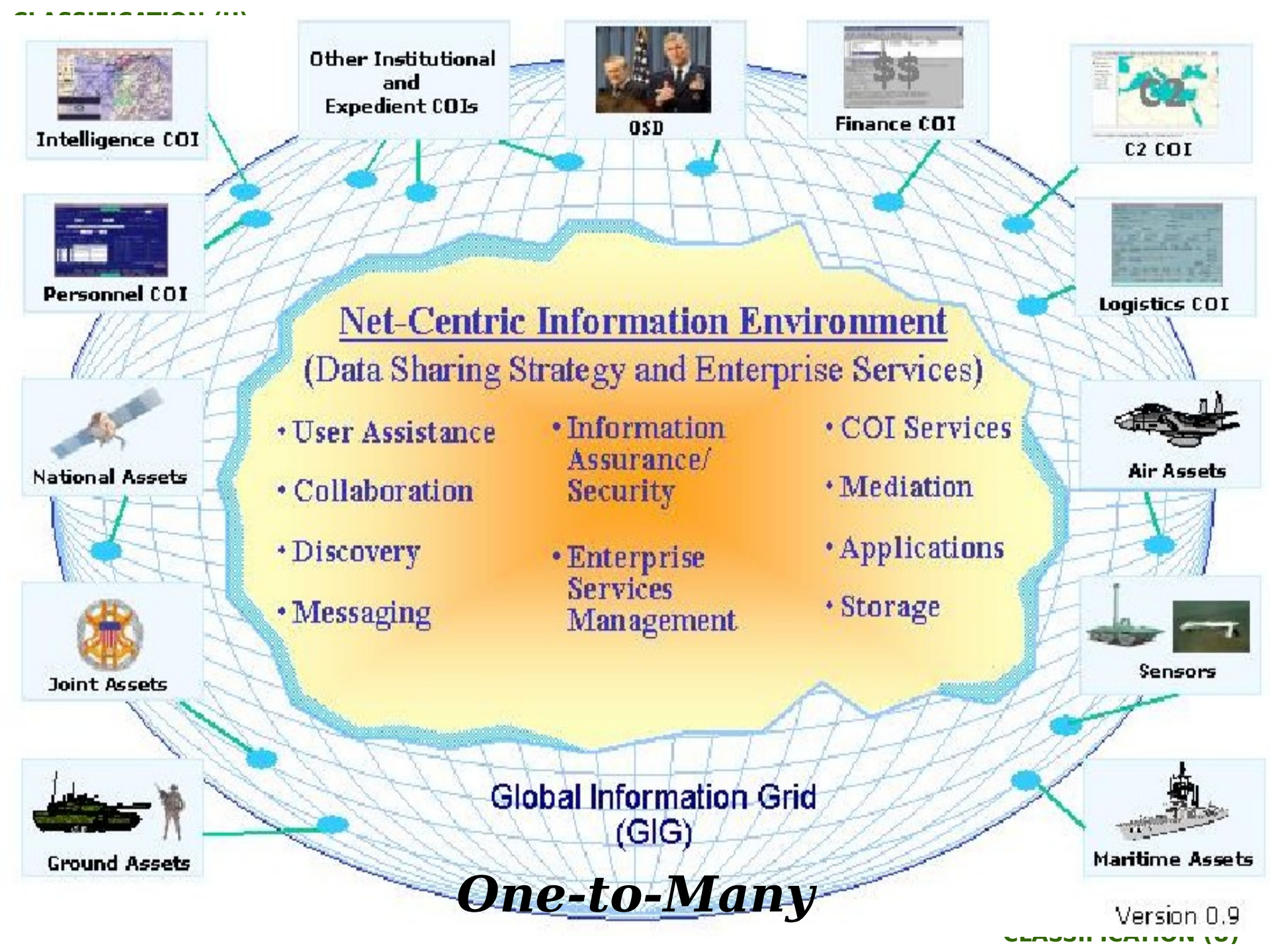
One-to-Many

Net Ready approach centers on central network:

- **Focus on organizational contributions and consumption of information**
- **One-to-network paradigm**

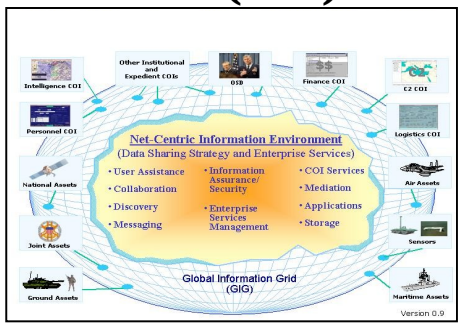


This example: 1 system has to deal 1 interface


Intelligence COI
Other Institutional and Expedient COIs
OSD
Finance COI
C2 COI
Personnel COI
Logistics COI
Net-Centric Information Environment
(Data Sharing Strategy and Enterprise Services)
• User Assistance
• Collaboration
• Discovery
• Messaging
• Information Assurance/ Security
• Enterprise Services Management
• COI Services
• Mediation
• Applications
• Storage
National Assets
Air Assets
Joint Assets
Sensors
Ground Assets
Maritime Assets
Global Information Grid
(GIG)
One-to-Many
Version 0.9

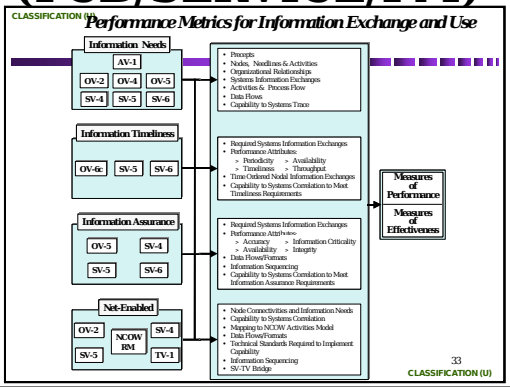
Net-Ready Key Performance Parameter Synthesis

NCOW RM Compliance OSD(NII)



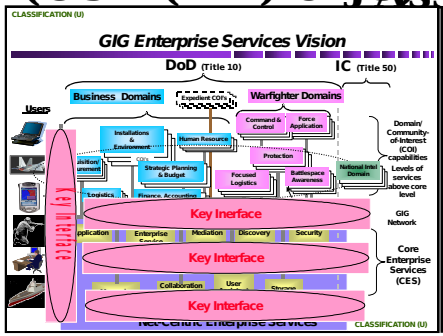
- Generic user-interface
- Intelligent-assistant capabilities
- Net-centric service capabilities (core services, Community of Interest (COI) services,
- Environment control services

Integrated Architecture (FCB/SERVICE/PM)



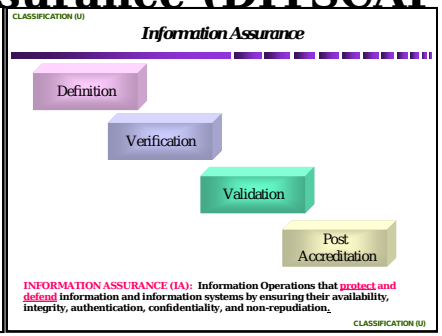
- Operational Nodes
- Organizational Relationships
- Operational Activity
- Operational Event-Trace
- Systems Functionality Description
- Operational Activity to Systems Function

Key Interface Compliance (OSD (NII) & JS)



- Operational and Systems functionality
- Interface Technical specification
- OV, SV-TV bridge
- Systems Engineering
- Interface MGMT Plan

Information Assurance (DITSCAP*)


CLASSIFICATION (U)
Information Assurance
Definition
Verification
Validation
Post Accreditation
INFORMATION ASSURANCE (IA): Information Operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation.
CLASSIFICATION (U)

- Availability
- Integrity
- Authentication
- Confidentiality
- Non-repudiation

*DoD Information Technology Security Certification and Accreditation Process

Net Ready KPP Statement

Net Ready KPP	Threshold (T)	Objective (O)
All activity interfaces, services, policy-enforcement controls, and data-sharing of the NCOW-RM and GIG-KIPs will be satisfied to the requirements of the specific Joint integrated architecture products (including data correctness, data availability and data processing), and information assurance accreditation, specified in the threshold (T) and objective (O) values.	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise-level or critical in the Joint integrated architecture	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the Joint integrated architecture

KPP Testing/ Metrics

Attributes

- **Information needs**
- **Information timeliness**
- **Information assurance**
- **Net-enabled**

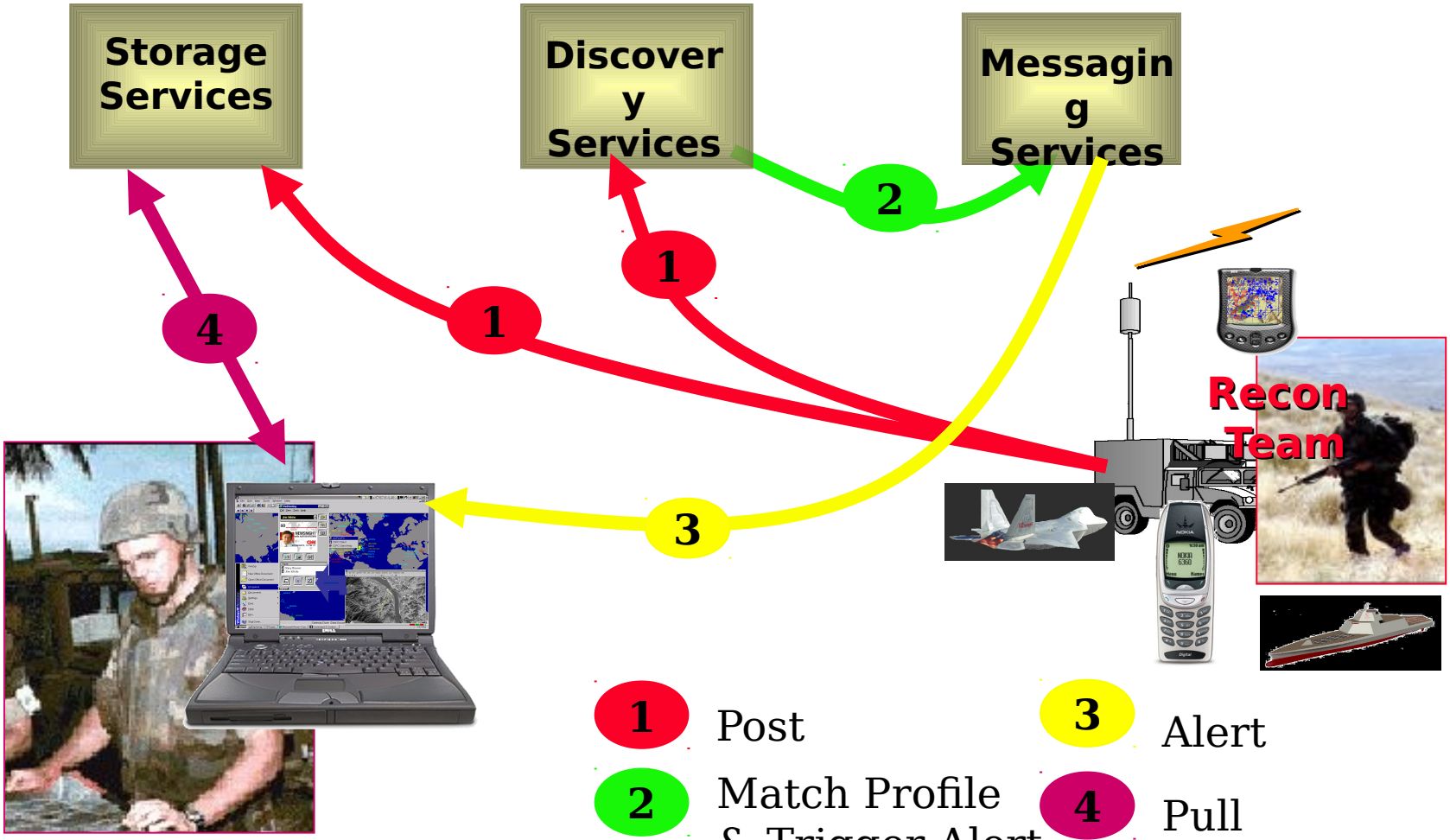
Metrics

- **Core Elements**
  - **Information Processing**
  - **Information Transfer**
  - **Information Modeling, Metadata, and Information Exchange**
  - **Human-Computer Interface**
  - **Information Security/Assurance**
- **Community of Interest (COI) Elements**
  - **Content, Accuracy, Timeliness, Relevance**

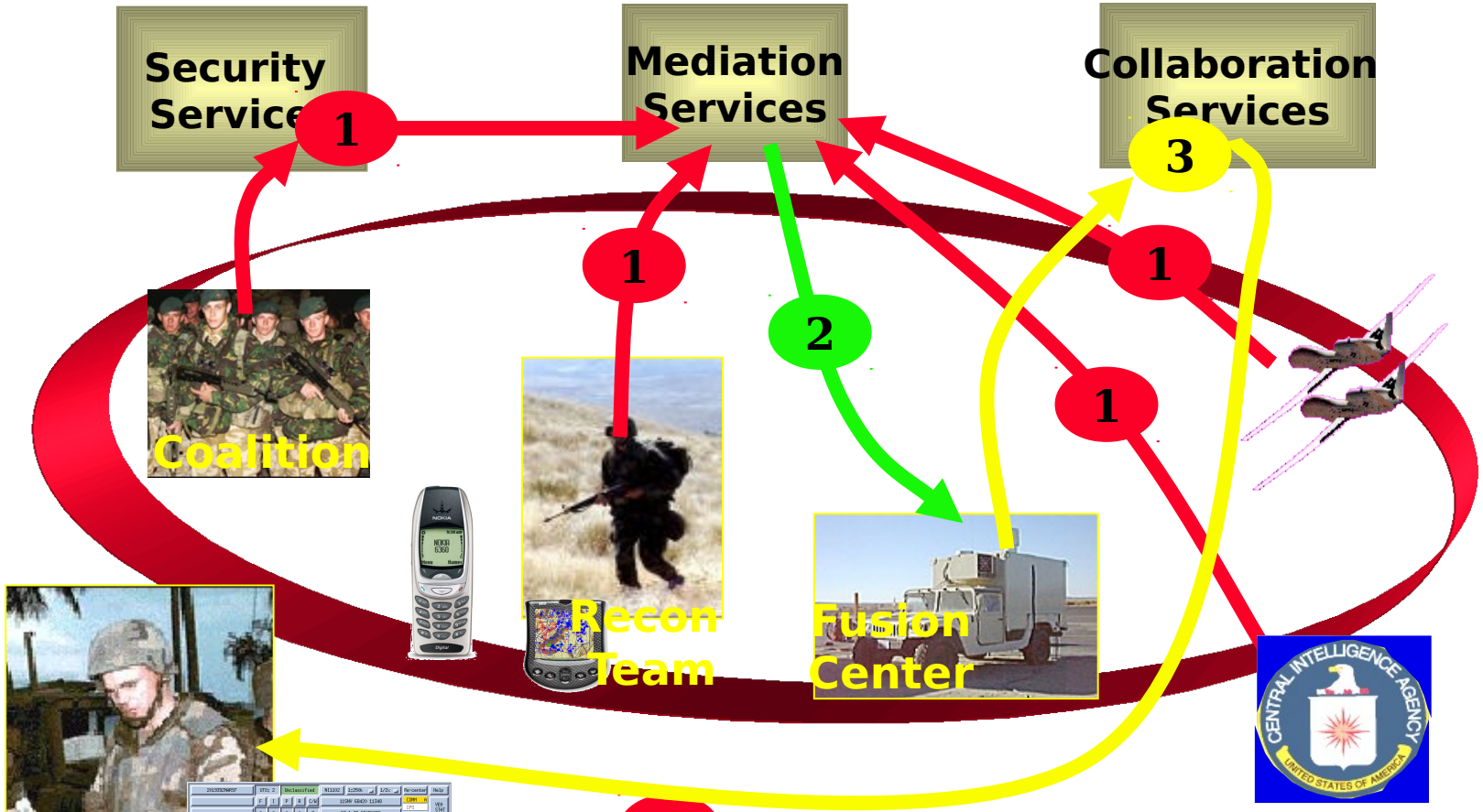
Net Centric Characteristics

- Is it Internet Protocol (IP) based?
- Is it encrypted, with black core only?
- Do you handle information only once (OHIO)?
- Is data posted for use as soon as it is available?
- Do applications encourage “discovery”-Smart Pull, not Push?
- Is data separate from the application?
- Can users pull multiple applications to access same data?
- Does network security support dynamic allocation of access?
- Is quality of service defined?

How GES/NCES works



How NCES works (Cont'd)



Complementary and Corresponding Systems

- **GIG BE**
- **JTRS**
- **GCCS**
- **NCES**
- **TCS**
- **Crypto Modernization**
- **Collaboration Tools**
- **Horizontal Fusion**

Evolving the Interoperability Key Performance Parameter

TODAY

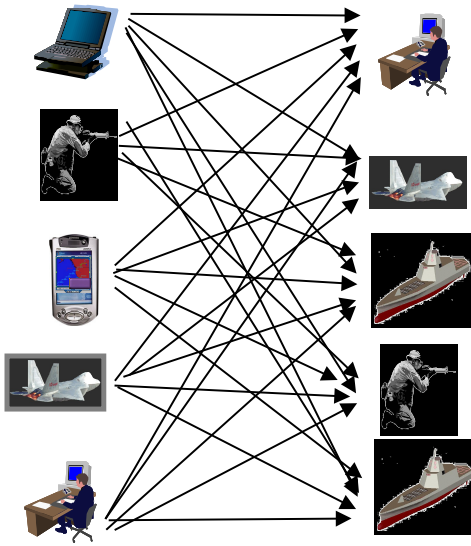
Interoperability KPP	Threshold (T)	Objective (O)
All top-level IERs will be satisfied to the standards specified in the Threshold (T) and Objective (O) values.	100% of top-level IERs designated critical	100% of top-level IERs

JTRS

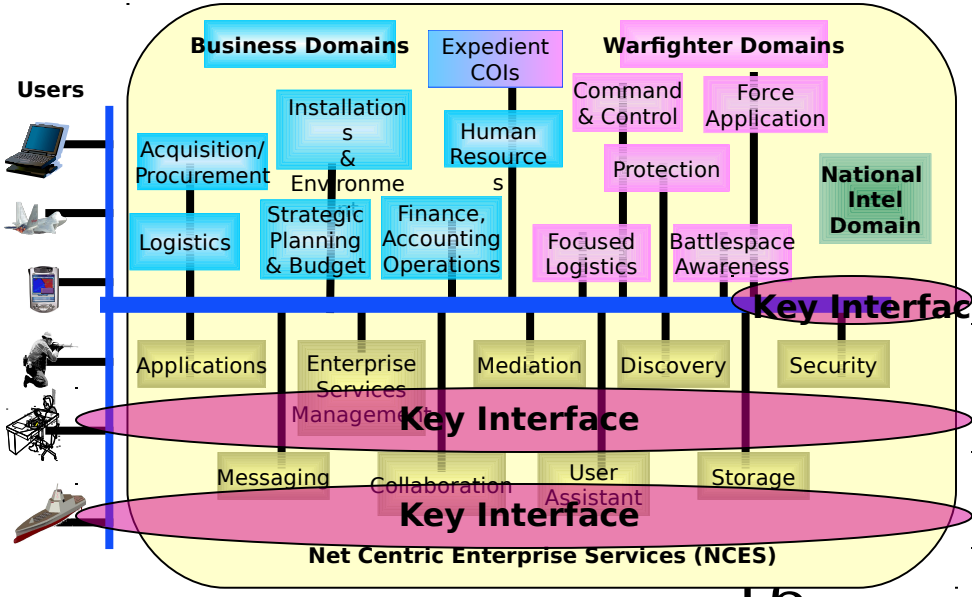
- Internal growth capacity
- Set modes/ capabilities/ configuration via net
- Retransmit/Crossband/waveform supportable
- Field time/critical waveforms
- Operate designated # of channels at same time
- Scaleable Networking Services
- System Network Interoperability

FCS

- Joint Interoperability
- Networked Battle Command
- Network lethality
- Transportability
- Sustainability/Reliability
- Training
- Survivability



TOMMORROW



4 Pillars

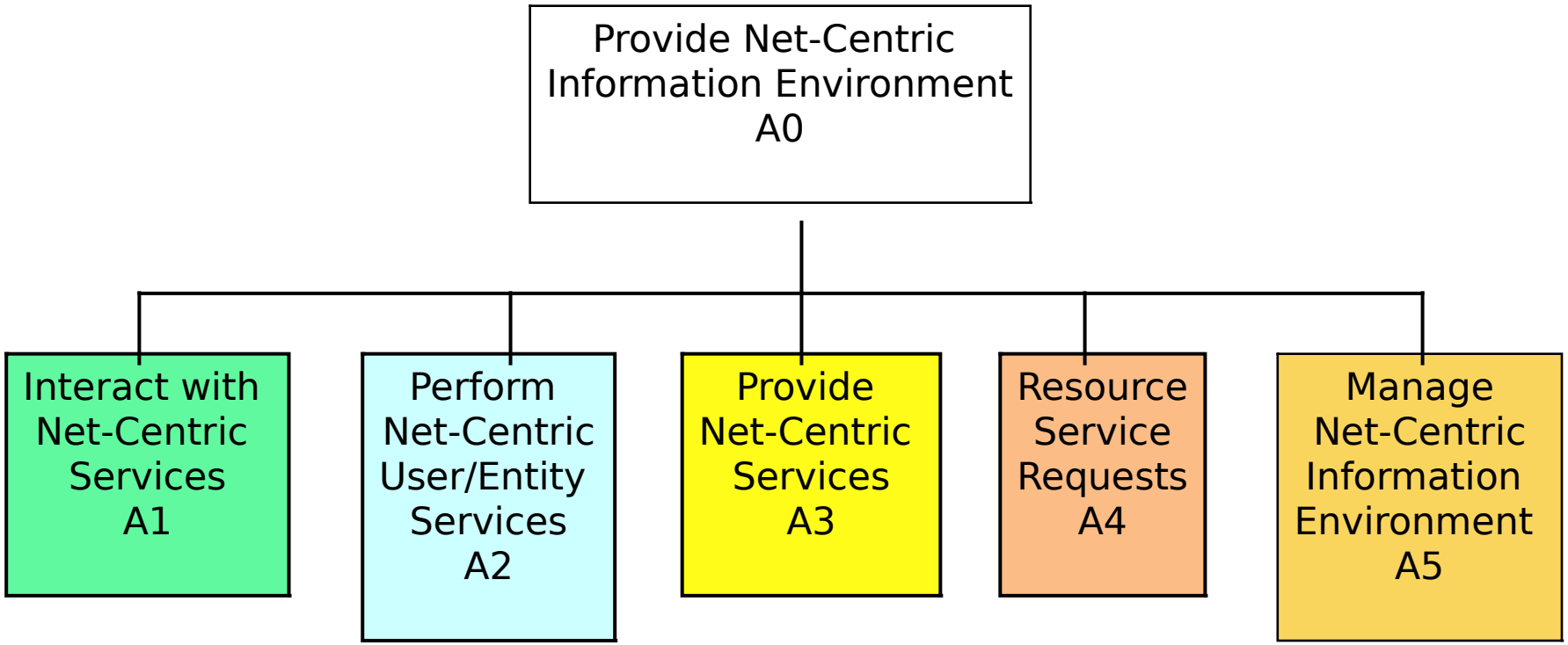
- Information Assurance
- NCOW RM Compliant
- Integrated Architecture Products
- GIG KIPs

Key Interface

Questions?

BACKUPS

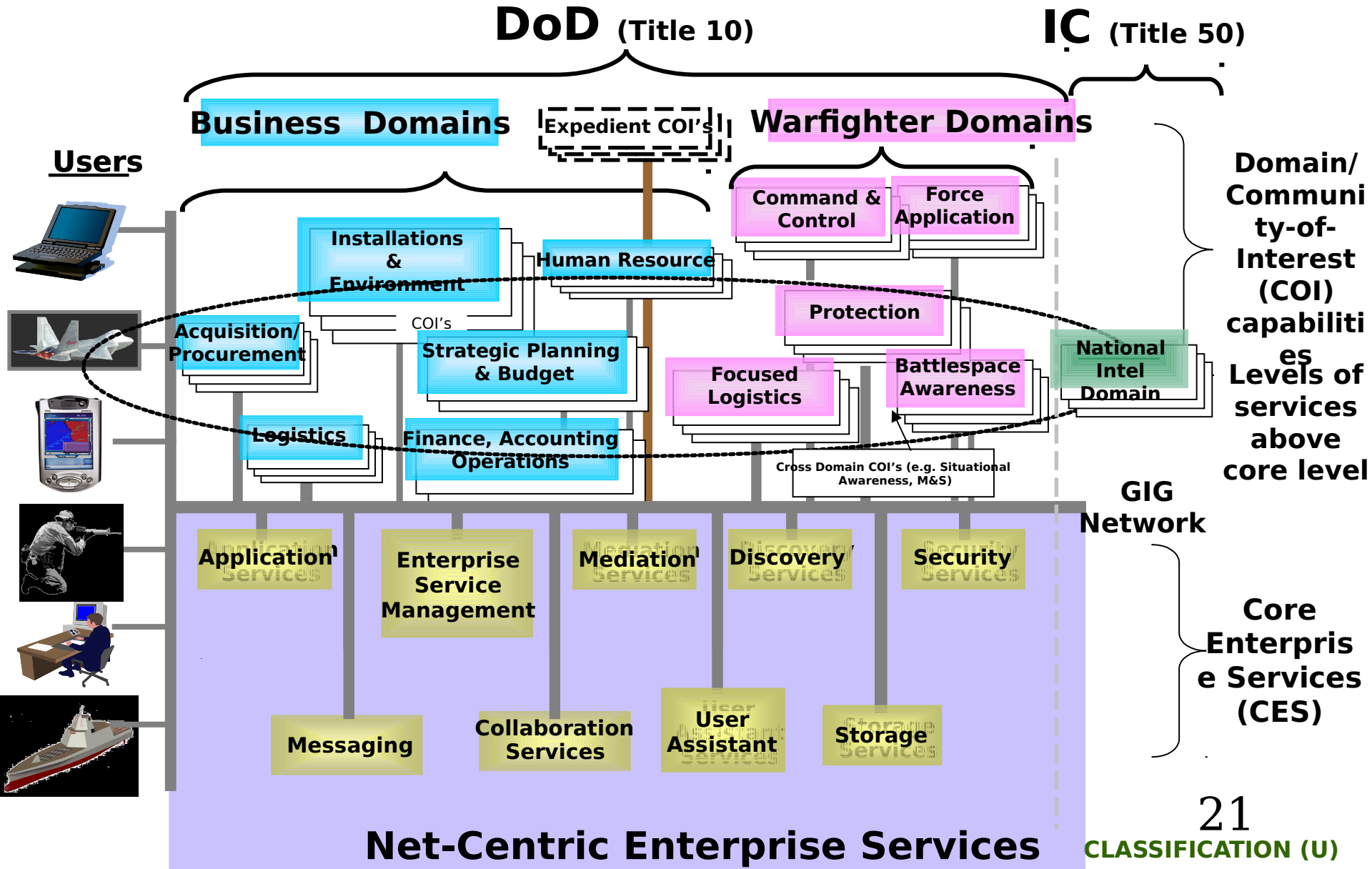
(NCOW) Reference Model


Provide Net-Centric Information Environment A0
Interact with Net-Centric Services A1
Perform Net-Centric User/Entity Services A2
Provide Net-Centric Services A3
Resource Service Requests A4
Manage Net-Centric Information Environment A5

Supporting Integrated Architecture Products

Framework Products	Framework Product Name	General Description
AV-1	Overview and Summary Information	Scope, purpose, intended users, environment depicted, analytical findings
OV-2	Operational Node Connectivity Description	Operational Nodes, operational activities performed at each node, connectivity and information exchange needlines between nodes
OV-4	Organizational Relationships Chart	Organizational, role, or other relationships among organizations
OV-5	Operational Activity Model	Operational activities, relationships among activities, inputs and outputs. Overlays can show cost performing nodes, or other pertinent information.
OV-6c	Operational Event-Trace Description	One of three products used to describe operational activity sequence and timing – traces actions in a scenario or sequence of events and specifies timing of events
SV-4	Systems Functionality Description	Functions performed by systems and the information flow among system functions
SV-5	Operational Activity to Systems Function Traceability Matrix	Mapping of systems back to operational capabilities or of system functions back to operational activities.
SV-6	Systems Data Exchange Matrix	Provides details of systems data being exchanged between systems.
TV-1	Technical Standards Profile	Extraction of standards that apply to the given architecture.

GIG Enterprise Services Vision



The 17 Key Interfaces

Communications KIPs

- Logical Networks to DISN Transport Backbone
- Space to Terrestrial Interface
- JTF to Coalition
- JTF Component to JTF Headquarters
- Teleport (i.e., deployed interface to DISN)
- Joint Interconnection Service
- DISN Service Delivery Node
- Secure Enclave Service Delivery Node (e.g., SCI/Collateral KIP)

Computing KIPs

- Application Server to Database Server
- Client to Server
- Applications to COE/CCP

Network Operations KIPs

- End System to PKI
- Management Systems to (integrated) Management Systems
- Management Systems to Managed Systems
- IDM to Distribution Infrastructure
- Information Servers to IDM Infrastructure

Applications

- Application Server to Shared Data (e.g., Situational Awareness Data KIP)

(Pilot Projects in Red)

Certification and Accreditation Process (DITSCAP)